

**Vehid Kurtić**

**Naida Bikić**

**Edina Kadrić Durmiš**

## **ENHANCING STUDENTS' CONFIDENCE AND UNDERSTANDING IN PROBABILITY THROUGH CHATGPT: AN ANALYSIS OF AI'S IMPACT ON LEARNING EXPERIENCES**

### ***Abstract***

*The purpose of this study was to examine the effects of ChatGPT on the learning process and academic achievement in the field of probability. A selected group of students from the mathematics and computer science department was involved in the process. They were given two tests, pre-test, and post-test, which were designed to assess their proficiency in solving probability problems. Utilizing ChatGPT was permitted during the post-test.*

*To capture the students' perceptions regarding their learning experience with ChatGPT, two separate surveys were administered. These surveys aimed to gauge the students' self-confidence levels, their comprehension of probability concepts, and the perceived level of challenge encountered during problem-solving activities. The results of this study revealed significant improvements in both self-confidence and comprehension of probability concepts among students after the introduction of ChatGPT assistance. The qualitative data obtained from the surveys further supported these findings, indicating a positive shift in the students' perceptions of their abilities and understanding of the subject matter. Interestingly, despite these improvements, the level of challenge perceived by the students during problem-solving activities did not exhibit a significant change. This could be attributed to the intrinsic complexity of probability problems, which often require a deep understanding of underlying mathematical principles and may not be fully mitigated by external assistance alone.*

*In conclusion, this study provides valuable insights into the potential benefits of integrating AI-driven tools like ChatGPT into educational settings, particularly in facilitating learning and enhancing students' academic performance in complex subject areas such as probability theory.*

**Keywords:** *ChatGPT, probability, problem-solving, education, success.*

## **Introduction**

The introduction of technological innovations into education has not only become essential in the era we live in but has also brought new opportunities for enhancing learning and understanding complex disciplines, such as mathematics. The digital revolution has transformed the way we approach education, and artificial intelligence is becoming ubiquitous in classrooms. In this light, ChatGPT (Generative Pre-Trained Transformer) stands out as one of the most powerful tools for improving math classes, yet it raises numerous questions about its justification, drawbacks, and advantages. This research holds significant importance as it provides new insights into the application of advanced language models in probability teaching. Our objectives include studying the impact of using ChatGPT on students' self-confidence, comprehension of the subject matter, and ability to tackle challenges, while also exploring their thoughts and perceptions of this educational experience. The results of this research can serve as guidelines for teachers and educators who wish to integrate this technology into their teaching experience.

ChatGPT can be utilized in education, mathematics, and other related fields in various ways. Firstly, it can function as a virtual tutor, providing additional support to students in problem-solving, explaining concepts, and offering additional learning resources. Additionally, it can generate various types of exercises, tasks, and tests that can be tailored to the needs of teachers and students, facilitating the creation of personalized learning materials. Furthermore, it can assist researchers in data analysis, interpretation of research results, and generating new hypotheses or research questions. Besides, ChatGPT can be a useful tool in writing essays, reports, and other academic papers by providing suggestions, checking grammar and spelling, and even translating texts into different languages. Lastly, it can aid in solving mathematical problems, conducting statistical analyses, or programming by providing useful guidance, tips, and explanations. The use of ChatGPT in education can enhance learning efficiency, provide additional support to students and teachers, and facilitate access to various educational resources and materials.

## Literature review

Numerous studies on the use of ChatGPT in mathematics education have been published in a short period, covering a diverse range of research and opinions exploring various aspects of this topic. Some researchers highlight potential benefits, while others emphasize challenges and dilemmas associated with integrating this technology into the educational process. This literature review aims to synthesize these different perspectives to provide a comprehensive insight into the use of ChatGPT in mathematics teaching.

Some studies emphasize the possibilities of personalized learning and support that ChatGPT can provide to students. For example, Firat (2023) emphasizes that ChatGPT can improve student motivation and engagement by providing individualized assistance, guidance, and feedback. Furthermore, research suggests that ChatGPT can be a useful tool for continuous learning, providing students with access to support at any time (Firat, 2023).

However, some studies highlight the challenges and limitations of ChatGPT in the context of mathematics education. For example, Chew (2023) highlights the limitations in ChatGPT's knowledge, particularly in solving complex mathematical problems such as high-order square root equations. Limitations in understanding context and lack of precision can pose challenges to students relying on ChatGPT for support in probability problem-solving.

Moreover, studies highlight ethical and practical dilemmas associated with integrating ChatGPT into mathematics teaching. Yu (2023) explores the question of whether universities should ban the use of ChatGPT in an educational context, citing examples of misuse of this technology. Some researchers also consider the possibility of replacing the role of teachers with ChatGPT but emphasize that technology cannot completely replace human interaction and support (Ausat et al., 2023).

Additionally, studies have examined the performance of ChatGPT in solving mathematical problems of varying difficulty. Dao and Lê (2023) investigate the capabilities of ChatGPT in solving mathematical tasks from the Vietnamese national high school graduation examination, highlighting the variable success of ChatGPT depending on the task's difficulty and subject. This research provides insight into the limitations of ChatGPT's mathematical abilities and suggests that the technology may struggle with solving more complex problems and understanding specific mathematical concepts. Syed et al. (2023) conducted an exploratory survey at the university level to investigate the effects of integrating ChatGPT as an AI tool for education and research. Their

results indicated that respondents were generally aware of and familiar with ChatGPT, perceiving it as a useful and easy-to-use tool for enhancing teaching and research. Furthermore, the integration of ChatGPT had a positive impact on the quality of education and research outcomes. This aligns with the findings of our study, suggesting that universities should consider integrating ChatGPT into their educational and research programs to enhance the learning and research experiences of students and faculty. Overall, the study highlighted the benefits of using ChatGPT as an AI tool in educational settings. Respondents expressed satisfaction with the efficiency and effectiveness of ChatGPT in providing quick and accurate information. Additionally, they appreciated the flexibility and versatility of ChatGPT in assisting with various tasks related to teaching and research. As such, the study recommends further exploration and implementation of ChatGPT in academic institutions to optimize the educational and research processes. To learn more about the possible uses of ChatGPT in higher education, Singh et al. (2023) surveyed 430 computer science students. According to the report, even though students are aware of the tool, they do not frequently utilize it in their academic activities because they are unsure about their academic integrity and do not fully comprehend all of its features.

Students admitted that ChatGPT had both advantages and disadvantages. While it may help with debugging and code development, it can also be misused, especially when creating assignment reports. The authors make the case that colleges should clearly instruct students on how to use ChatGPT properly. They also recommend more studies be done to determine the best practices for integrating ChatGPT into the classroom, considering both its benefits and drawbacks.

## **Methodology**

The case study aims to explore the impact of using ChatGPT on students' success in probability problem-solving at the university level. To achieve this goal, we employed a combination of pre- and post-ChatGPT usage surveys, as well as probability problem-solving tasks that students completed.

By using this methodological approach, we enabled in-depth examination of specific cases or phenomena, which is particularly useful when exploring a complex process such as the influence of technology on academic success. We were able to analyze the impact of ChatGPT on each student in detail, as well as different aspects of their experience with the technology. All of this

results in a better understanding of how technology affects different aspects of academic success and students' subjective experiences, contributing to the relevance of research findings.

***Research Objectives:***

1. Analyze students' subjective impressions of using ChatGPT in the context of probability problem-solving.
2. Identify the advantages and challenges of using ChatGPT in mathematics education, particularly in the field of probability.

***Research Tasks:***

1. Analyze students' subjective impressions of using ChatGPT through surveys.
2. Compare students' responses to survey questions before and after using ChatGPT

***Research Questions:***

- **Research question 1:** How does interaction with ChatGPT affect students' confidence in solving probability math problems, and how is this reflected in their survey responses?
- **Research question 2:** In what way does the use of ChatGPT contribute to students' understanding of key concepts in probability, and how is this reflected in their survey ratings?
- **Research question 3:** How does the perception of challenge in solving probability math problems vary among students before and after using ChatGPT, and what factors may influence this change?
- **Research question 4:** How do the results in the first two survey questionnaires correlate with the impact of ChatGPT on students' self-confidence, understanding, and perception of challenges?
- **Research question 5:** How does the perception of the quality of responses from ChatGPT change among students after use, considering their experience, expectations, and test results?

Participants in this study were third-year students of the Faculty of Philosophy, studying Mathematics and Computer Science, enrolled in the Probability and Statistics course. Participants provided consent to be included in the study. The research was conducted in December 2023.

**Results and discussion**

The participants were given two tests: a pre-test, and a post-test, each with seven activities divided into three difficulty levels: basic, intermediate, and advanced. ChatGPT was permitted during the

post-test. In addition, the students took part in two surveys: one before and one after using AI. By evaluating survey answers, we hoped to assess the usefulness of ChatGPT as a supplemental instructional tool and identify any improvements or obstacles faced by students.

*Table 2. Survey 1 results*

<b>SURVEY 1 questions</b>	<b>Average</b>
<b>P1: Rate your level of confidence in solving probability mathematics problems.</b>	2.4
<i>1 (Completely unsure)      5 (Completely confident)</i>	
<b>P2: Rate your understanding of key concepts in probability.</b>	3.0
<i>1 (Poorly understand)      5 (Fully understand)</i>	
<b>P3: Rate the level of challenge you felt when solving probability mathematics problems.</b>	3.6
<i>1 (Not challenging)      5 (Very challenging)</i>	

*Table 2. Survey 2 results*

<b>SURVEY 2 questions</b>	<b>Average</b>
<b>Q1: Rate your level of confidence in solving probability mathematics problems using ChatGPT.</b>	3.6
<i>1 (Completely unsure)      5 (Completely confident)</i>	
<b>Q2: Rate the impact of ChatGPT on your understanding and solving of probability problems.</b>	4.0
<i>1 (No impact)      5 (Significant impact)</i>	
<b>Q3: Rate the quality of the responses received from ChatGPT.</b>	3.4
<i>1 (Inaccurate)      5 (Completely accurate)</i>	

By analyzing data collected from two surveys shown in Tables 1 and 2 and administered before and after students interacted with ChatGPT, this study aims to assess changes in students' confidence, understanding of key concepts, and perceptions of challenges in probability problem-solving. Through this analysis, the report seeks to elucidate the impact of AI technologies on students' learning experiences and outcomes in the domain of probability, offering valuable insights for educators and practitioners interested in leveraging such tools to enhance teaching and learning processes. The results of the study revealed a significant increase in students' confidence levels and understanding of key concepts after interacting with ChatGPT. Additionally, students reported feeling less challenged by probability problem-solving tasks, indicating that the AI technology had a positive impact on their learning experiences. These findings suggest that integrating AI technologies like ChatGPT into educational settings can be beneficial for both students and educators, providing new opportunities for enhancing teaching and learning in complex subject areas like probability.

### ***Confidence in solving probability problems***

The average confidence rating in Survey 1 (P1) was 2.4, suggesting that students have a modest level of confidence. After employing ChatGPT in Survey 2 (Q1), the average confidence rating rose to 3.6. This considerable rise indicates that students felt more secure answering probability issues after engaging with ChatGPT. The rise in the average self-confidence rating following ChatGPT testing implies that students' involvement with this tool contributed to increased self-confidence. This might be because ChatGPT provided help and feedback during problem resolution, reducing feelings of insecurity.

### ***Understanding key concepts in probability***

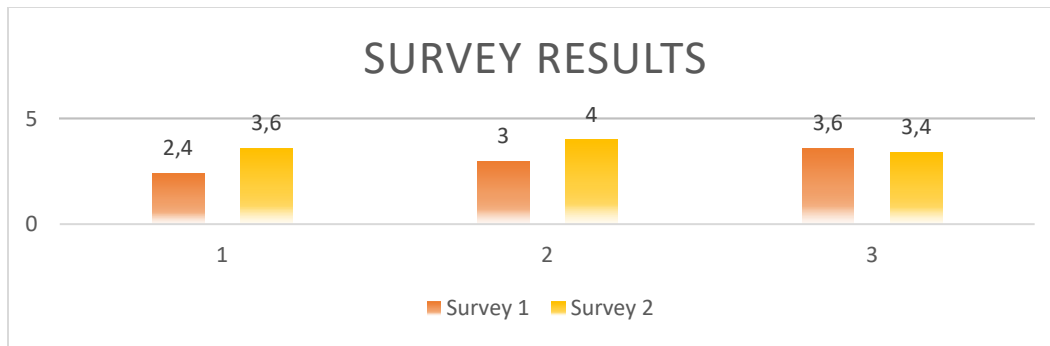
In Survey 1 (P2), students scored an average of 3 for grasping essential ideas, indicating a modest degree of knowledge. After using ChatGPT in Survey 2 (Q2), the average comprehension rating increased to 4. The higher average knowledge rating following ChatGPT testing suggests that engagement with this technology leads to a better understanding of essential probability concepts. Possible reasons for this include the chance to ask further questions and obtain explanations from ChatGPT, allowing students to expand their knowledge.

### ***Level of challenge in solving mathematical problems in probability***

Question P3 (Survey 1) had an average rating of 3.6 for the degree of complexity, suggesting that students regarded the issues to be moderately tough. After employing ChatGPT in Survey 2 (Q3), the average challenge rating dropped marginally to 3.4. While there was a drop, it was less substantial than the improvements in confidence and knowledge. The minor decrease in the level of challenge indicates that, while ChatGPT may have offered some aid, students still had some difficulty in completing probability issues, suggesting that ChatGPT's assistance may not have completely reduced the obstacles they faced. This could be because probability is inherently a challenging subject for many students, and while ChatGPT helped boost confidence and knowledge, it may not have been able to eliminate the complexities of the material. It is possible that further improvements or modifications to the ChatGPT system could help to further reduce the level of challenge for students working on probability problems. Overall, the results suggest that while ChatGPT can be a valuable tool in aiding students with difficult subjects, there may still be room for improvement in terms of reducing the overall difficulty of the material.

Based on the provided responses, we have answered the first three research questions. These findings demonstrate the good influence of ChatGPT on students' confidence and grasp of probability concepts. However, they also state that, while ChatGPT may ameliorate certain issues, it may not eradicate them. Further study might determine how to use best ChatGPT to better meet the needs of students and improve their probability problem-solving learning experiences. Castillo et al., (2023) report that during talks concerning AI tools, the topic "Is ChatGPT a good thing?" had a largely favorable response, with 150 out of the total participants or 69.44% of the respondents agreeing. Furthermore, when asked "Why ChatGPT?", most students cited its benefits; 154 participants, or 71.30% of the answers, mentioned how quick and accurate it was. In addition, 50 students or 23.15% of the total said that ChatGPT's cost-effectiveness was a major influence in their decision to use it. These answers highlight how university students view ChatGPT as helpful in the digital learning process. Comparative responses of students for the first three questions on the survey before and after using ChatGPT are presented in Graph 1. We will address the fourth research question in the following sections.





*Graph 1. Compared results of surveys*

### ***P1 and Q1 (Self-confidence)***

The correlation coefficient between ratings of self-confidence in solving mathematical problems in the first survey and ratings of self-confidence with the assistance of ChatGPT in the second survey is 0.952. This value indicates a very strong positive correlation. This means there is a very strong relationship between ratings of self-confidence in solving mathematical problems in the first survey and ratings of self-confidence with the assistance of ChatGPT in the second survey. In other words, students who had higher self-confidence in solving mathematical problems in the first survey also had higher self-confidence using ChatGPT in the second survey.

### ***P2 and Q2 (Understanding)***

The correlation between ratings of understanding key concepts in probability in the first survey and ratings of the impact of ChatGPT on understanding in the second survey is 0.929. This value also indicates a very strong positive correlation. This means there is a very strong relationship between ratings of understanding key concepts in probability in the first survey and ratings of the impact of ChatGPT on understanding in the second survey. In other words, students who had a better understanding of key concepts in probability in the first survey had a greater impact of ChatGPT on their understanding in the second survey.

### ***P3 and Q3 (Challenges)***

The correlation is -0.202, indicating a very weak negative correlation. This means there is a very weak linear relationship between ratings of the level of challenges in solving mathematical problems in the first survey and ratings of the impact of ChatGPT on challenges in the second survey. The interpretation of negative correlation is that as ratings for the level of challenges in

the first survey increase, ratings for the impact of ChatGPT on challenges in the second survey decrease. However, this relationship is not strong enough to be considered significant.

Analyzing the perception of the quality of responses from ChatGPT among students after use, we will consider a conversation example between two students to better understand this issue to analyze the fifth research question.

As shown in the conversation example between Student 3 and Student 2 (illustrated in Figure 1), students may feel that the responses from ChatGPT did not adequately support their learning or understanding of the material. These results suggest that the perception of response quality from ChatGPT may vary among students and that different factors can influence this perception, including their experience, expectations, and test results.

Figure 1. Example of different question formulation

**Anonymous**  
Funkcija gustine vjerovatnoce slucajne promjenljive  $X$  data je sa fun  $f(x) = K \cdot \arccos x$ ,  $x$  pripada inter  $[-1;1]$ ,  $f(x)$  je 0,  $x$  ne pripada  $[-1;1]$  Izracunati nepoznatu konstantu  $K$

**ChatGPT**  
Da bismo odredili nepoznatu konstantu  $K$  u funkciji gustine vjerovatnosti, moramo iskoristiti činjenicu da ukupna površina ispod funkcije gustine mora biti jednaka 1. Ova uvjet je poznat kao normalizacija funkcije gustine vjerovatnosti.

Integral funkcije gustine  $f(x)$  određen je kao:

$$\int_{-\infty}^{\infty} f(x) dx = 1$$

U ovom slučaju, funkcija gustine  $f(x)$  definirana je kao:

$$f(x) = \begin{cases} K \arccos x & \text{za } x \in [-1, 1] \\ 0 & \text{inače} \end{cases}$$

Dakle, integral od  $f(x)$  od -1 do 1 mora biti jednak 1:

$$\int_{-1}^1 K \arccos x dx = 1$$

Sada možemo riješiti ovaj integral za  $K$ :

$$\int_{-1}^1 K \arccos x dx = K \int_{-1}^1 \arccos x dx = 1$$

Nakon rješavanja ovog integrala, dobit ćemo izraz za  $K$ . Budući da je ovo matematički izračun, predlažem upotrebu odgovarajućeg softvera ili kalkulatora za izračunavanje integrala.

**Anonymous**  
Mislim da nisi dobro izračunao.

**ChatGPT**  
Ispravljam se na nesporazumu. Razmotrimo ponovno izračunavanje integrala kako bismo pravilno odredili nepoznatu konstantu  $K$ .

$$\int_{-1}^1 K \arccos x dx = K \int_{-1}^1 \arccos x dx$$

Za rješavanje ovog integrala koristit ćemo svojstvo da je integral  $\int \arccos x dx$  jednak  $x \arccos x + \sqrt{1-x^2} + C$ , gdje je  $C$  konstanta.

$$K \int_{-1}^1 \arccos x dx = K [x \arccos x + \sqrt{1-x^2}]_{-1}^1$$

$$K [(1) \arccos(1) + \sqrt{1-1^2} - ((-1) \arccos(-1) + \sqrt{1-(-1)^2})]$$

$$K [\arccos(1) + \sqrt{0} - (-\arccos(-1) + \sqrt{0})]$$

$$K (\pi + \pi)$$

$$K (2\pi)$$

Sada, kako bi integral bio jednak 1, moramo postaviti  $K (2\pi) = 1$ . Dakle,  $K = \frac{1}{2\pi}$ .

Ispravak je  $K = \frac{1}{2\pi}$ . Hvala na strpljenju i ispravci su vrlo dobrodošli.

One possible reason for dissatisfaction with the quality of responses is a lack of precision or relevance in the answers. It's possible that the responses were not detailed enough or were incomplete, failing to meet the students' expectations. Additionally, ChatGPT may not have provided sufficiently deep or complex answers to meet the student's needs, especially if the questions were complex or demanding.

Furthermore, each student's subjective standards can influence their dissatisfaction with the quality of the responses. What one student considers unacceptable may be acceptable to another, further complicating the assessment of response quality.

Finally, it's important to note that while ChatGPT can provide a wide range of information, there are limitations to its ability to respond adequately all questions, especially if the questions are imprecise or unclear. Therefore, students' dissatisfaction may result from shortcomings in the questions posed or expectations that are too high relative to the capabilities of the system itself. Considering all the factors mentioned, the perception of the quality of responses from ChatGPT can significantly differ among students, and the feeling of dissatisfaction can often be attributed to a combination of various factors, including the quality of questions, expectations, and experience with the system.

As the use of AI in education continues to grow, it will be crucial for educators to stay informed and adapt their teaching practices accordingly to ensure that students are receiving the best possible learning experience. According to Sullivan et al. (2023), the introduction of ChatGPT has generated a great deal of discussion in higher education in recent years. Some have voiced serious worries about academic integrity, even as they defend its ability to improve student learning. Even with the continuous discussion, there is still a notable dearth of scholarly works devoted to examining the applications of ChatGPT and related generative AI technologies in learning environments (Sullivan et al., 2023). This gap in research highlights the need for further exploration into how AI tools like ChatGPT can enhance student learning outcomes. By delving deeper into the potential benefits and drawbacks of these technologies, educators and researchers can better understand how to effectively integrate them into the classroom.

The example of Student 3 illustrates a situation where a properly posed question resulted in a clear and appropriate response from ChatGPT. On the other hand, Student 2 did not formulate their question adequately, resulting in an ambiguous and unclear response. This difference in results may indicate the importance of precision and clarity in asking questions to ensure that ChatGPT provides answers that meet users' needs. Student 2 exhibited a partial understanding of the solution to the given problem but could not complete the solution independently. It becomes evident that ChatGPT cannot function as a standalone tool; rather, for optimal efficacy, the user in this instance, the student must possess a comprehensive grasp of the subject matter and be capable of discerning whether the solution provided aligns with their requirements. Regrettably, in the case of Student

2, such discernment was lacking, as they struggled to interpret the response furnished by ChatGPT. Moreover, it is imperative to acknowledge that ChatGPT is susceptible to errors, necessitating the user's ability to critically evaluate the legitimacy of AI-generated outcomes and intervene accordingly. As per Rathod (2023), ChatGPT is an invaluable pedagogical instrument for educators and learners alike. A thorough investigation offers valuable perspectives on the potential benefits and obstacles of incorporating ChatGPT into the classroom. It indicates that this is because ChatGPT makes use of generative artificial intelligence, which is not always reliable and can generate inaccurate or nonsensical data. As a result, caution must be used while using these technologies, and regulations for their appropriate usage should be thought out (Rathod, 2023). These results suggest that students' subjective perceptions of using the tool may vary and may affect their perception of their own abilities and motivation.

## **Conclusion**

Taken up, this study's findings offer important new perspectives on how ChatGPT affects students' self-assurance when tackling probability-based arithmetic problems. Several important conclusions have been drawn from the examination of survey responses, and correlation studies. Overall, the results point to ChatGPT having a good impact on students' confidence, comprehension of important ideas, and sense of difficulty when it comes to answering probability problems. The study revealed that after using ChatGPT, students' confidence and comprehension of important ideas significantly increased.

Taking into account all of the presented findings and analyses, we can conclude that incorporating AI technologies such as ChatGPT into educational settings can benefit both students and teachers. This technology opens up new opportunities to improve teaching and learning processes in complex subjects like probability. While ChatGPT can help with self-confidence and understanding of key concepts, it has some limitations in terms of answering all questions adequately. The findings show that students' perceptions of the quality of ChatGPT responses can differ. This perception is influenced by a variety of factors, including experience, expectations, and test results. While some students were satisfied with the quality of their responses, others felt that the answers did not sufficiently support their learning or understanding.

Teachers may more effectively include ChatGPT into their lesson plans and assist students in their learning process by having a deeper grasp of the needs and experiences of their students with the

platform. In future research, we intend to investigate the relationship between motivation and self-confidence with success in probability problem-solving to better understand how ChatGPT affects students' learning and motivation.

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# POVEĆANJE SAMOPOUZDANJA I RAZUMIJEVANJA VJEROVATNOĆE KOD STUDENATA KROZ KORIŠTENJE CHATGPT-A: ANALIZA UTJECAJA VJEŠTAČKE INTELIGENCIJE NA ISKUSTVA UČENJA

## **Sažetak**

*Cilj ovog istraživanja bio je istražiti utjecaje ChatGPT-a na proces učenja i akademski uspjeh u oblasti vjerovatnoće. Za učešće su odabrani studenti studijskog programa matematika i informatika. Data su im dva testa, pre-test i post-test, koji su bili dizajnirani da ocijene njihovu sposobnost u rješavanju problema vjerovatnoće. Upotreba ChatGPT-a bila je dozvoljena tokom post-testa.*

*Kako bi se dobio uvid u dojmove studenata o njihovom iskustvu učenja s ChatGPT-om, sprovedene su dvije odvojene ankete. Ove ankete imale su za cilj procijeniti nivoe samopouzdanja studenata, njihovo razumijevanje koncepata vjerovatnoće i percipirani nivo izazova tokom aktivnosti rješavanja problema. Rezultati ovog istraživanja otkrili su značajna poboljšanja kako u samopouzdanju tako i u razumijevanju koncepata vjerovatnoće među studentima nakon uvođenja asistencije ChatGPT-a. Kvalitativni podaci dobijeni iz anketa dalje su potvrdili ova otkrića, ukazujući na pozitivni pomak u percepciji sposobnosti studenata i razumijevanju predmeta. Zanimljivo je da, uprkos ovim poboljšanjima, nivo izazova koji su studenti percipirali tokom aktivnosti rješavanja problema nije pokazao značajnu promjenu. To bi se moglo pripisati samoj složenosti problema vjerovatnoće, koji često zahtijevaju duboko razumijevanje osnovnih matematičkih principa i možda ne mogu biti u potpunosti eliminisani samo vanjskom asistencijom. Na kraju, ovo istraživanje pruža vrijedne uvide u potencijalne koristi integracije AI alata poput ChatGPT-a u obrazovno okruženje, posebno u olakšavanju učenja te poboljšanju akademskih rezultata studenata u kompleksnim oblastima poput teorije vjerovatnoće.*

**Ključne riječi:** ChatGPT, vjerovatnoća, rješavanje problema, obrazovanje, uspjeh.